

AC. 239

CEYLON.



PART IV.—EDUCATION, SCIENCE, AND ART (C.)

Administration Report of the Director of Medical and Sanitary Services for 1940.

(Abridged)

(Dr. S. T. GUNASEKARA.)

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DEPARTMENT OF MEDICAL AND SANITARY SERVICES.

REPORT OF THE DIRECTOR OF MEDICAL AND SANITARY SERVICES FOR THE YEAR 1940.

Section 1.—General Diseases.

The most prevalent disease during the year under review as in previous years was malaria. 97,354 cases were treated as in-patients in hospitals and 2,994,155 cases at the out-door dispensaries. Other diseases which prevailed during the year included pneumonia, bronchitis, intestinal affections, rheumatism, ankylostomiasis and influenza.

A summary of the most prevalent diseases is shown in the table of morbidity (Section 17).

Section 2.—Communicable Diseases.

1. The following table gives the notified cases of communicable diseases with deaths :—

Disease.	Cases.	Deaths.	Disease.	Cases.	Deaths.
Chickenpox ..	7,939	6	Mumps ..	798	2
Cholera ..	1	1	Pulmonary T. B. ..	3,198	832
Diphtheria ..	226	26	Plague ..	—	—
Dysentery ..	8,560	837	Smallpox ..	—	—
Enteric ..	3,167	512	Whooping cough ..	1,450	7
Measles ..	2,702	5			

Immunization : Anti-typhoid.

1st dose ..	69,393
2nd dose ..	54,845

Anti-Smallpox Vaccination.

Primary ..	178,259
Secondary ..	3,211

Number of births recorded was 212,111 and 84.04 of them were vaccinated.

Eighty-nine Sanitary Assistants obtained their certificates of competency making a total of 269.

2.—OTHER DISEASES OF IMPORTANCE TO CEYLON.

(a) **Malaria.**—According to anticipations an outbreak of malaria occurred in the south-western part of the Island in the early part of May and continued till about the 2nd week in July. Although this was not so severe or widespread as the outbreak of the previous year it covered new areas. The situation was aggravated by floods. The necessary treatment facilities, medical comforts, general relief as well as control of breeding places were undertaken.

The establishment of a field laboratory for investigation of the cause and full epidemiology of the malaria in the newly affected areas is under consideration.

The usual anti-malarial measures were carried out in other areas.

(b) **Dysentery.**—An epidemic of dysentery due to the Shiga bacillus occurred from May to October, 1940, in the area of the Field Medical Officer, Pannala, in the North-Western Province. There were 3,378 cases with 336 deaths. The spread of infection was largely due to the innumerable number of flies that bred out at Kongoda Estate due to unsatisfactory manuring with coconut poonac. Full preventive action was taken including the establishment of a temporary hospital and several treatment centres at which necessary medical comforts and food were provided.

(c) **Hookworm.**—2,147,063 treatments were given.

Sixty-three Sanitary Assistants, two School Health Nurses and 21 Estate Dispensers were granted certificates to administer mass treatment for hookworm infestation under supervision.

(d) **Yaws (Parangi).**—During the year there were 1,681 known infective and 4,951 non-infective cases which received 8,311 injections. At the end of the year there were 675 infective and 5,671 known non-infective cases ; 48 were dead and 238 were untraceable.

(e) **Filariasis.**—There were 2,329 known cases in 337 villages. In 162 out of 423 localities the pistia plant was removed.

Investigation work at Bandaracoswatta is being continued.

Section 3.—Vital Statistics.

The Registrar-General has furnished the following figures for the year 1940 :—

(a) Estimated population ..	5,951,000
(b) Total births ..	212,982
Birth rate per 1,000 persons ..	35.8
(c) Total deaths ..	122,738
Death rate per 1,000 persons ..	20.6
(d) Total infant deaths ..	31,719
Infant death rate per 1,000 births ..	149
(e) Maternal mortality rate per 1,000 births ..	16.1
(f) Main causes of deaths (as below).	

TABLE OF THE MAIN CAUSES OF DEATHS REGISTERED IN CEYLON FOR 1940.

All Causes	..	..	..	122,738
I.— <i>Infectious and Parasitic Diseases</i>	..	..	..	25,292
Typhoid Fever and Paratyphoid fever	..	..	..	989
Diphtheria	..	..	..	55
Influenza	..	..	..	1,898
Dysentery	..	..	..	2,870
Tuberculosis of the Respiratory system	..	..	..	3,299
Tuberculosis of other organs	..	..	..	198
Malaria fever and Malarial Cachexia	..	..	..	9,119
Black water fever	..	..	..	50
Ankylostomiasis	..	..	..	1,606
II.— <i>Cancer and other Tumours</i>	..	..	..	723
Cancer and other malignant tumours	..	..	..	673
III.— <i>Rheumatic Diseases, Nutritional Diseases, Diseases of the Endocrine Glands, and other general diseases</i>	..	..	..	6,207
Acute rheumatic fever	..	..	..	2,113
Rickets	..	..	..	3,305
IV.— <i>Diseases of the Blood and Blood-making organs</i>	..	..	..	2,222
V.— <i>Chronic Poisonings and Intoxications</i>	..	..	..	5
VI.— <i>Diseases of the Nervous System and of the Organs of Special Sense</i>	..	..	..	15,814
Infantile convulsions (age under 5 years)	..	..	..	12,216
VII.— <i>Diseases of the Circulatory System</i>	..	..	..	2,471
VIII.— <i>Diseases of the Respiratory System</i>	..	..	..	13,721
Bronchitis	..	..	..	1,577
Broncho-pneumonia (including Capillary Bronchitis)	..	..	..	2,002
Lobar pneumonia	..	..	..	1,729
Pneumonia, unspecified	..	..	..	5,276
IX.— <i>Diseases of the Digestive System</i>	..	..	..	8,441
Diarrhoea and enteritis (under 2 years of age)	..	..	..	1,492
Do. (2 years and over)	..	..	..	5,269
X.— <i>Non-venereal Diseases of the Genito-Urinary System and Annexa</i>	..	..	..	1,843
XI.— <i>Diseases of Pregnancy, Child Birth and the Puerperal State</i>	..	..	..	3,423
Puerperal haemorrhage	..	..	..	280
Puerperal Sepsis, not returned as post-abortive	..	..	..	1,012
Puerperal Albuminuria and Convulsions	..	..	..	1,563
XII.— <i>Diseases of the Skin and Cellular Tissue</i>	..	..	..	8,297
XIII.— <i>Diseases of the Bones and Organs of Locomotion</i>	..	..	..	53
XIV.— <i>Congenital Malformations</i>	..	..	..	69
XV.— <i>Diseases of Early Infancy</i>	..	..	..	9,809
Congenital Debility	..	..	..	6,708
Premature Birth	..	..	..	2,867
XVI.— <i>Old Age</i>	..	..	..	6,945
XVII.— <i>Violent and Accidental Deaths</i>	..	..	..	3,075
XVIII.— <i>Ill-defined causes of Deaths</i>	..	..	..	14,328
Cause of death unstated or ill-defined—	..	..	..
(a) Dropsy	..	..	..	1,740
(b) Pyrexia	..	..	..	11,234

Section 4.—Hygiene and Sanitation.

Water Supply.—Forty towns are now provided with pipe-borne supplies. 1,205 new wells were built and of which 1,084 were private and 121 public.

265 samples of water were examined bacteriologically and 122 showed evidence of recent pollution.

Sixty-three samples of water were chemically examined and 34 of them showed evidence of pollution.

Disposal of Excreta.—27,072 latrines were constructed showing an increase of 1,285 over the previous year.

Drainage.—195,337 feet of cement drains were built in Urban Council and Sanitary Board towns and bazaar areas. There is an increase as compared with the previous year.

In 11 towns schemes have been worked out.

Anti-fly Measures.—60,982 out of the 70,753 breeding places of flies detected were dealt with.

Licensed and Offensive Trades.—Out of the 10,880 licensed premises 10,816 were inspected and 3,625 were radically improved.

There were 3,542 offensive trades and in 672 nuisances were abated.

Food Sanitation.—89,048 head of cattle were inspected and 81,243 passed for slaughter. Of the 32,035 goats inspected 30,838 were passed as fit for slaughter.

Milk Supply.—975 samples of milk were examined, 494 of which were found to be adulterated.

Estate Sanitation.—Number of scheduled estates was 2,321 with an Indian immigrant labour population of 684,000. 781 estates were inspected. Sanitary conditions of 55 per cent. were either very good, good, or very fair. In 33 per cent. it was fair, and in the balance 12 per cent. it was either poor or bad.

631 of the estates inspected had lines that were not overcrowded, 71 slightly and 74 overcrowded. 113,251 line rooms were inspected of which 89,174 were up to Government standard.

514 estates had entirely protected water supplies, 174 partly and 93 unprotected supplies.

The number of latrine compartments found were 23,004 pit, 11,561 bucket, and 766 water-borne. 2,130 were further required.

The number of Government Hospitals in estates medical districts was 64 and Government Dispensaries 102. In addition there were 96 Estate Hospitals, and 680 Estate Dispensaries serving 1,041 estates. All Estate Hospitals were inspected for rebate purposes. Two new Estate Hospitals were opened during the year. There were 3 qualified Medical Officers, 6 Indian qualified but not registrable, 2 qualified Apothecaries, and 601 "Approved" Dispensers.

351,631 labourers were treated for hookworm on estates and 2,902 of the 3,350 arrivals at Mandapam Camp.

On all estates there were 241 registered midwives serving 498 estates and 66 unregistered midwives serving 209 estates. There was an increase of 50 registered midwives. 654 estates had creches, and 688 estates provided cooked meals to children. 650 estates granted maternity benefits according to the private agreement. 153 estates had maternity wards. Eighteen estates had lying-in rooms attached to lines.

Section 5.—Maternity and Child Welfare.

There was a significant demand for the extension of maternity and child welfare work. The work was carried out as outlined in previous reports. The staff was increased by 2 new Field Medical Officers and 52 midwives.

With the appointment of the better trained midwives (18 months) there has been an improvement in the domiciliary midwifery service.

Free maternity service by Government Medical Officers at homes of poor mothers at complicated labours was established.

The number of mothers delivered in hospitals was 13,011. The number of maternity homes was increased by 8 provided by Government in rural areas. The number of cases delivered in these homes was 1,148.

The number of expectant mothers, infants and pre-school children under care were 92,188, 113,598 and 118,750 respectively. The number of visits paid to clinics by mothers was 119,376, by infants 245,586, and by pre-school children 95,784. The number of deliveries by Public Health Midwives was 43,962.

1,531 schools were medically inspected and 77,082 scholars were medically examined. 72,716 were found defective with 142,559 defects, and 62,381 defects were corrected. Health Education measures were carried out completely in 436 schools and partially in 2,801 schools.

Section 6.—Tuberculosis.

The Departmental Committee has put forward an extensive scheme for intensive control work by establishing clinics for chest diseases in provincial towns, providing increased accommodation and carrying out propaganda and preventive work. The Colombo Municipality undertook to look after cases within the Municipal area with the help of the Central Government Anti-Tuberculosis Institute, and has established a chain of such clinics in the city.

A new hospital for 300 patients is nearing completion; two provincial clinics and five re-fill stations for artificial pneumothorax were established; a preventorium of 24 beds was opened at Kandana Sanatorium but was later converted into a ward for adult patients. The total accommodation specially reserved for tuberculosis patients was increased from 516 to 588.

4,152 new pulmonary cases were registered at the Central Clinic at Colombo, and 984 pulmonary and 57 non-pulmonary cases were treated at outstation dispensaries.

Section 7.—Leprosy.

The Leprosy Survey of the Island which commenced in 1933 was completed.

In 1940, 333 patients were detected of whom 58 were under 14 years, and 244 were males; 219 neural cases and 144 lepromatous.

At the end of 1940, there were 2,781 patients (2,032 m.; 739 f.) of whom 1,068 were segregated in the two Asylums.

Four new clinics were opened bringing the total of these to 22. The Departmental Committee for leprosy control was revised and special Boards of Visitors were appointed to the leprosy hospitals. Provision for increasing accommodation is made by a new ward of 40 beds which is being built at Mantivu and plans are being prepared for a third hospital for 320 patients at Urugaha.

Section 8.—Venereal Diseases.

Advice on the control of venereal diseases is given by a Departmental Committee and the work at all institutions is co-ordinated by the Surgeon-in-charge of the Genito-Urinary Clinic, General Hospital, Colombo. Three Medical Officers were given post-graduate training here. During 1940, there were 5,183 first visits, 20,729 second visits, and 447 minor operations.

With the training of personnel and the provision of accommodation, arrangements for treatment, follow-up work and keeping of records are being organized at all centres. At Jaffna, Badulla, Kurunegala, Galle and Batticaloa, special buildings have been built for clinics; at Bandarawela, Polgahawela and Rambukkana additional accommodation was provided on the scheme to improve about ten dispensaries every year. The cinema, lantern slides and pamphlets have been made use of in educating the public.

5,880 patients for syphilis, 21,093 for gonorrhoea, and 928 for soft sore were treated at dispensaries and clinics.

Section 9.—Nutrition.

Dietary surveys, investigation into prison diets, haematological studies and studies in maternal and infant nutrition were done. The calcium requirements of pregnant women are being investigated by means of experiments on "calcium balance".

Much propaganda has been done. Courses of lectures were organized. Two booklets were issued.

There is evidence that the nutrition work being done in Ceylon is producing results. The incidence of clinical signs such as phrynoderma and sore mouth among the school population has fallen considerably during the past few years. This can be attributed to the free mid-day meal, the increasing food production in the villages and the wider knowledge of dietetic requirements and food values.

Section 10.—Health Education.

Health education was carried out as outlined in last year's report.

Section 11.—Medico-legal Work in Colombo.

The Judicial Medical Officer and the Assistant Judicial Medical Officer, Colombo, examined 4,922 patients and held 706 post-mortem examinations. Forty-two productions were microscopically examined and of these 37 were hair, 1 heart, 1 liver, 1 spleen, 1 kidney, and 1 brain.

Section 12.—Work done in Hospitals, Dispensaries, &c.

(a) HOSPITALS.

During the year under review, one new cottage hospital was opened. Dental Clinics were established at Kegalla, Kurunegala, and Anuradhapura Hospitals. Anti-rabic clinics were started at Kurunegala, Jaffna, Galle, Kalutara, and Kandy Hospitals. At the end of the year, there were 126 hospitals, with a total of 11,192 beds. The total number of in-patients treated was 425,540 and the number of deaths was 22,386.

(b) DISPENSARIES.

During the year, 5 new central dispensaries, 11 new branch dispensaries and 3 visiting stations were opened. These bring the total of central dispensaries to 269, branch dispensaries to 191, and visiting stations to 310. The total number of patients treated in these dispensaries as well as in the Out-patient departments of the hospitals was 7,133,762.

(c) MENTAL HOSPITAL.

The name of this institution was changed from "Lunatic Asylum" to "Mental Hospital" in view of the change sanctioned by the Lunacy Ordinance.

This institution has accommodation now for 2,512 patients including 12 paying patients accommodated in 6 separate villas housing 2 patients each. The daily average for the year was 3,356.

The number of certified patients admitted during the year was 1,078 and the number admitted to the House of Observation was 1,853.

The total number of patients discharged was 603. This number includes cases recovered, relieved of symptoms, partially recovered or discharged at the request of the guardians on security.

457 deaths occurred in this institution out of which 154 deaths were House of Observation cases. The diseases which caused most deaths were dysentery and phthisis.

Section 13.—Work done in the Laboratories.

(a) BACTERIOLOGICAL INSTITUTE.

Examinations made in the Bacteriological Institute include the following:—Agglutination 19,306, B. Diphtheriae 1,846, B. Dysenteriae 1,805, B. Pestis 69, Cultures for Blood 6,583, Gonococci 3,468, Leprosy 41, Malaria 4,203, Spirochaetes 21, Sputa for pneumococci 61, Sputa for T. B. 3,255, W. R. 27,150, Kalm 17,997, G. F. T. 7,941, Henry's Test 23, Number of specimens examined for hookworm, tapeworm, roundworm, by Stoll's method 5,309, by Willis' method 11,027, water samples 265, others 5,452. Total 115,822.

Calf lymph and other vaccines were prepared and issued at this institution.

155,642 specimens were examined at outstation laboratories of the Bacteriological Institute.

(b) PASTEUR INSTITUTE.

The number of in-patients treated during the year was 1,065 and that of out-patients 1,842, thus making a total of 2,907. Of these 2,221 were actually bitten, i.e., 76.4 per cent. The others were considered to be at slight risk such as the possibility of infected cuts or scratches.

Results of Treatment.—There were 11 deaths from hydrophobia. Of these, two patients failed to take a full course of Pasteur treatment. One patient commenced treatment three weeks after the date of being bitten. The failures for the year were 0·27 per cent.

(c) OTHER LABORATORIES.

141,914 examinations were done at the offices of Medical Officers of Health and Field Medical Officers. 29,395 examinations were sent by Medical Officers of Health and Field Medical Officers to Colombo for examination.

Entomological laboratory work was carried out in connection with the scheme of forecasting and preventing of malaria epidemics, filariasis control work, rat flea surveys, and breeding of house flies. Investigative work was carried out in regard to larvicidal oils.

Section 14.—Medical Buildings.

The building programme of this Department has had necessarily to be curtailed with the outbreak of hostilities owing to the need for exercising the strictest economy and to the difficulty in obtaining certain essential materials. In spite of these difficulties, however, the progress that has been made is quite satisfactory. In Colombo the following works were fully or nearly completed:—The 2nd stage of the De Soysa Lying-in Home, the new Three Storey Block at the General Hospital, the Khan Memorial Ward, and the new Pathology Block at the Medical College. In addition to the above the preparation of the plans and preliminary consultations have been completed with regard to the new Outpatients' Department and the new Operating Theatre Block of the General Hospital, Colombo, the latter of which is nearing completion at the time of writing, and will, it is believed, be one of the finest operating theatre units in the East.

The largest building erected in an outstation is the new Two Storey Ward Block at the Kandy Hospital which will accommodate 160 patients. This building has attached to it an excellent operating theatre which incorporates in it many of the new features that are being provided at the Colombo theatres. These buildings are nearly completed and will be finally declared open within a few months.

New Hospitals were constructed at Hambantota and Kalutara. Hospitals of the Cottage Hospital type were completed at Madipola (C. P.), Pallewela (Sab.), Pungudutivu (N. P.), and Dompe (W. P.) and hospitals of the same type are in the course of construction at Wallalawita (W. P.), Madugoda (C. P.), Hiniduma (S. P.) and Badalkumbura (Province of Uva).

Substantial improvements have been effected to the hospitals at Galle, Matara, Kurunegala (where an excellent new Outpatients' Department block has already been completed and is being made use of) Jaffna, Badulla, Trincomalee, Panadure, and Nikaweratiya.

The special institutions which have received the attention of the department are a new Tuberculosis Hospital at Welisara which will provide accommodation for 300 beds. This hospital is being built jointly by the King George V. Memorial Committee and Government. Very good progress has been made with this work.

All the necessary plans and preliminary consultations for a new Leper Hospital at Urugaha and a Mental Hospital at Pelawatta have been completed and the work will be undertaken very shortly. These buildings will be erected from loan funds.

For the control of Venereal Diseases a number of Social Hygiene Clinics is being erected in relation to existing hospitals and dispensaries and provision is being made annually for 10 such Clinics. Up to the present time such Clinics have been provided at Galle, Badulla, Batticaloa, Bandarawela, Rambukkanā, and Polgahawela; others are under construction at Weligama and Horana. The other institutions for which plans and estimates have been prepared are those at Kandy, Matale, Trincomalee, Matara, Lunawa, Dandagamuwa, Warakapola, Gampola and Maho.

Donations have been accepted for a hospital at Mirigama, for a ward for Orthopaedic cases at the General Hospital, for Wards for Buddhist Priests at Kandy, Matara, and Pimbura, for a ward for Roman Catholic Priests at the General Hospital, for maternity wards at the Mawata-gama Cottage Hospital and the Rambōda Hospital, a Maternity Home at Wadduwa, and Health Centres at Aparekka, Bambarenda, Kotawila, and Telijjawila.

The provision of suitable quarters for the medical staff of hospitals is a pressing need and while it is generally accepted that several buildings are not quite satisfactory it has been possible to do little to ameliorate their conditions. The loyal co-operation of the officers who have frequently at much inconvenience occupied such quarters is greatly appreciated.

An attempt to improve the housing conditions of the resident staff at the General Hospital has been made and 6 bungalows located in Regent street have been bought from loan funds. A proposal to buy 3 more bungalows for the same purpose is under consideration.

In the general sphere of work regarding medical buildings an attempt has been made to regularize the procedure in connection with this work in order to secure the maximum efficiency with the least expenditure. The Hon. Minister for Health and the Hon. Minister for Communications and Works have agreed with this procedure which will be strictly followed in the future.

Another new feature that it is hoped to introduce is the provision of funds to enable local officers to get any increased latrine accommodation that may be required to a medical building in consultation with the local Health Officers. This will effect some saving and will it is hoped enable such work to be done more expeditiously.

A new outlook that will be stressed with regard to future new hospitals was illustrated in connection with the hospitals at Minneriya and Pelawatta. This is the need to determine the location of the hospital in relation to town planning and future development of the area.

Section 15.—Training of Local Medical and Health Personnel.

(a) MEDICAL PERSONNEL.

Two Medical Officers were sent to Dewas Senior to study the new technique for the treatment of Tuberculosis adopted by Sir James Roberts, M.S., F.R.C.S. Two Medical Officers were trained in the treatment of venereal diseases at the clinic attached to the General Hospital, Colombo.

Thirty-seven Nurses and 9 Nursing Sisters completed their training during the year. 55 attendants were also trained for work in the various hospitals.

(b) HEALTH PERSONNEL.

Kalutara, Panadure, Kurunegala and Colombo Laboratories, and the Lying-in Home, Colombo, continued to be the training centres. At these centres, 8 Medical Officers, 35 Sanitary Assistants, and 100 Midwives were trained. Divisional Revenue Officers were trained in fundamentals of rural health, anti-malaria and of nutrition.

Section 16.—Finance.

1. The revenue and expenditure for the financial year ended September 30, 1940, were Rs. 2,537,472.08 and *Rs. 12,929,756.27, respectively, as compared with Rs. 1,993,140 and *Rs. 12,918,696, respectively, during the year 1938-39. The increase in revenue is mainly due to increase on export duties under the Medical Wants Ordinance (Cap. 176).

2. The financial statement of the expenses of the administration of the Medical Wants Ordinance (Cap. 176) showed a surplus of Rs. 971,803 for the year ended September 30, 1939.

Section 17.—Table of Morbidity in respect of In-Patients and of Out-Patients.

(a) TABLE OF MORBIDITY IN RESPECT OF IN-PATIENTS.

Name of Disease.	Number of Cases.	Name of Disease.	Number of Cases.
Malaria ..	97,354	Bronchitis ..	8,903
Malarial Cachexia ..	9,152	Affections of the Ear or Mastoid Sinus ..	1,055
Influenza ..	10,197	Pneumonia and Broncho-pneumonia ..	15,697
Dysentery ..	7,446	Asthma ..	3,408
Tuberculosis ..	6,053	Ankylostomiasis ..	14,148
Syphilis ..	2,373	Ascaris ..	2,507
Gonorrhoea ..	4,639	Abscess ..	9,721
Chronic Rheumatism ..	4,257	Diseases of the joints ..	1,895
Affections of the Organ of Vision ..	8,266	Diarrhoea and Enteritis ..	10,409

(b) TABLE OF MORBIDITY IN RESPECT OF OUT-PATIENTS.

Name of Disease.	Number of Cases.	Name of Disease.	Number of Cases.
Malaria ..	2,994,155	Ear Diseases ..	69,219
Malarial Cachexia ..	312,957	Diseases of the Lungs and Pleura ..	404,025
Influenza ..	392,409	Gastric Diseases ..	728,036
Dysentery ..	61,081	Ankylostomiasis ..	348,713
Syphilis ..	5,880	Intestinal Troubles ..	462,168
Gonorrhoea ..	21,093	Skin Diseases ..	353,397
Chronic Rheumatism ..	415,187	Ulcers ..	471,299
Eye Diseases ..	85,049		

Section 18.—Quarantine Department.

I.—QUARANTINE MEASURES.

Plague.—The Island has been free of plague since August 23, 1938.

Small-pox.—There were no cases of smallpox during the year.

Cholera. One fatal case of Cholera occurred in Trincomalee.

II.—CEYLON QUARANTINE CAMPS IN SOUTH INDIA.

The following is a classification of passengers passed *via* Tuticorin :—

Men.	Women.	Children.	Infants.	Total.
7,858 ..	676 ..	434 ..	264 ..	9,232

The following is a classification of passengers passed *via* Mandapam :—

Men.	Women.	Children.	Infants.	Total.
35,859 ..	6,051 ..	3,291 ..	1,930 ..	47,131

The large decrease in the number of passengers passed was due mainly to the ban by the Government of India on the emigration of unskilled labour to Ceylon.

The Camp hospitals and dispensaries continued to be maintained during the year.

Passengers and estate labourers were vaccinated.

* These figures do not include the cost of new buildings and improvements to and maintenance of existing ones.

III.—PORT HEALTH WORK.

(a) Colombo.

Shipping.—During the year under review 1,884 British and foreign vessels called at the port and were granted pratique.

The number of Indian sailing craft which entered the port was 175.

Infected Vessels.—Forty-five vessels were infected. There were 154 cases of measles, 22 of mumps, 24 of chickenpox, 4 of dysentery and 1 of typhoid. No quarantinable diseases were detected. These cases occurred amongst the passengers and the crew, 9 cases were despatched to the Infectious Diseases Hospital, Angoda, 22 cases were removed to their private addresses, and the remaining 174 were isolated on board the vessels themselves.

The numbers vaccinated were at the Port Health Office 1,872, at the Office of the Assistant Port Health Officer for Immigration 2,068, at the Disinfecting Station 1,464 and making a total of 5,404.

Apart from these, 208 outgoing passengers (6 first class, 23 second class, and 179 third class) were vaccinated at their request at the Port Health Office.

Inoculation against Cholera.—Four persons were inoculated at the Port Health Office free. Fourteen outgoing passengers (2 first class, 2 second class, and 10 third class), were inoculated at their request.

Inoculation against Typhoid.—Five persons were inoculated at the Port Health Office free. One outgoing passenger was inoculated at his request.

Departures.—All passengers leaving Colombo for Tuticorin by steamer, excepting first class passengers, are medically examined prior to embarkation.

Of the 11,202 passengers so examined 44 were found unfit for the voyage and detained.

Arrivals.—All passengers arriving from South India (or from an infected port within the quarantine period) are required to undergo a period of surveillance unless they have been placed in quarantine at Mandapam or Tataparai Camp in South India.

The ports of Bombay, Rangoon, Calcutta, Hong Kong, Macao, Bangkok and Cochin were declared infected with epidemic smallpox during the year, and the usual quarantine restrictions were imposed on all passengers who embarked at these ports and who disembarked at the port of Colombo within fourteen days until the epidemic ceased. Calcutta was declared infected with epidemic smallpox on December 23, 1940, for the second time in the year and the epidemic was prevailing.

Bills of Health.—During the year under review, 1,229 Bills of Health were issued to vessels. Of this number 234 were issued to vessels which paid the consolidated rate, which included payment for Bills of Health; 65 were issued free to warships; and 6 were cancelled.

Rat Certificates.—Eleven rat certificates were issued to vessels bound for Australian and Dutch ports.

Breakwater Quarantine Depot.—Indian seamen numbering 20,207 were housed here until the arrival of their vessels in the harbour and housing charges amounting to Rs. 5,373·75 were collected. These crews underwent daily medical inspection.

Fumigation of Vessels.—Eleven vessels were fumigated during the year—1 with sulphur and 10 with hydrogen cyanide. In addition to these 12 schooners were fumigated with sulphur by the Port Health Staff (Colombo) at Kayts.

Deratization Exemption Certificates were issued to 25 ships, which were inspected by the Chief Fumigation Inspector.

Fumigation of Granaries.—All the 125 stores in Chalmers Granaries and the occupied stores (30) in the Manning Markets were fumigated once during the year, and (47) stores in the Chalmers granaries were fumigated a second time.

Fumigation of Merchandise from Plague-infected Ports.—The following is a statement of plague-suspect cargoes fumigated at the port during the year :—

Rice.	Paddy.	Cotton.	Other Merchandise.	Total.
4,660,461	.. 1,550	.. 435	.. 32,071	.. 4,694,517

Note.—The above figures denote the number of bags or bales, &c. The revenue derived from this fumigation was Rs. 60,625·31.

Fumigation of Lighters.—All lighters used for the transport of cargo in the harbour must be fumigated once a month under the supervision of the Inspector of Sulphur Fumigation by the pot-method. Of the 481 registered lighters in the port 438 were fumigated on an average each month, the remaining 43 being either repaired or commissioned for service in the lake.

415 dead rats were collected from these lighters after fumigation, but none of them was found to be plague-infected.

Water Supply to Ships.—Thirty-eight water boats owned by four companies were in use. They were thoroughly cleaned, disinfected and cement-washed once a quarter, after which each boat was inspected by a Port Health Officer before it was passed as fit for use.

Forty-four samples of water were collected from time to time and sent for chemical and bacteriological examination. Two of the samples of water were found to be polluted owing to

the carelessness of the boatmen. The owners were instructed to empty these water boats and have them re-cleaned and re-cemented. Samples were taken again before they were allowed to use these boats.

Samples of blood from 11 water boatmen were taken and sent for bacteriological examination and found to be negative for typhoid.

International Seafarers' Clinic.—This clinic, situated in the Port Health Office gives free treatment and advice for venereal diseases to seamen of all nationalities. Treatment was given to 38 seamen.

Disinfecting Station.—The following were disinfected :—

Passengers (incoming)	..	..	..	8,008
Others	..	..	..	2,397

1,075 cradles of soiled linen from ships were disinfected with steam, compared with 987 for 1939.

In addition 16 cradles of soiled linen were disinfected free of charge for the General Post Office and the Naval Department.

Sanitation of the Port Commission Area.—There is a very considerable improvement in the general cleanliness and equipment of the trade premises and also in the sanitary state of roads, drains, latrines, yards and warehouses.

Rat Trapping.—Regular rat trapping is carried on in the Port Commission area (excluding the Harbour Engineer's yard) and in the Chalmers Granaries and Manning Markets by the staff of the Colombo Municipality, who set 244 traps on an average daily throughout this area. Approximately 7,432 traps were set each month in the Customs area and 2,573 in the Granaries on an average. The number of rats trapped for the year was 1,155 in the Customs area, and 182 in the Chalmers Granaries and Manning Markets.

In the Harbour Engineer's yard about 35 traps were set daily by the Port Commission rat-trapper, and during the year 338 rats were trapped. None was found to be plague-infected. All rats trapped or picked up dead were sent daily to the City Microbiologist for examination for plague-infection.

Inspection of Damaged Foodstuffs.—During the year 21 consignments of foodstuffs were inspected by the Port Health Officers in the Customs Warehouses and the Chalmers Granaries and those unfit for consumption were condemned and destroyed.

Colombo Airport.—The quarantine duties in this connection are attended to by the Port Health Officer and his three Assistants in rotation.

Pratique was granted to 203 planes during the year. There were 220 crew and 217 passengers. All passengers were vaccinated, if necessary, and kept under surveillance for 14 days.

The Quarantine (Aircraft) Regulations, modelled on the International Sanitary Convention for Aerial Navigation, 1933, were published in the *Ceylon Government Gazette* of March 1, 1940.

(b) Galle.

Eighty steamers and 7 sailing vessels called at this port as against 122 steamers and 4 sailing vessels in 1939 and were granted free pratique.

Bills of Health.—Eighteen Bills of Health were issued during the year.

Disinfection.—277 cradles of soiled linen, mattresses, &c., from the Civil Hospital were disinfected free.

(c) Minor Ports.

Work was done at 14 minor ports as outlined in previous year's reports.

(IV.) FEES.

Fees collected were :—Rs. 278 for vaccinating, Rs. 26 for inoculating against cholera, Rs. 3 for inoculating against Typhoid, Rs. 9,702 by selling 924 Bills of Health, Rs. 210 for issuing 10 rat certificates, Rs. 3,056 for medical inspection of Indian crew, Rs. 870 for issuing deratization exemption certificates, Rs. 2,150 for disinfecting soiled linen with steam, and Rs. 214.50 for inspecting and passing water boats as fit for use.

(V.) GENERAL.

53,492 permits were issued during the year by the Quarantine Office to intending passengers authorizing them to cross over to Ceylon from India without detention in one of the quarantine camps at Mandapam and Tataparai if the passengers were healthy and were not contacts of a quarantinable disease, and subject to disinfection and vaccination, if required, in addition to surveillance on their arrival in Ceylon.

Section 19.—Ceylon Medical College.

At the commencement of the year there were 166 students on the roll.

Fifty-four new students were admitted to the College during the year under review. This number of students is the largest admitted to the College during any year since its inception. It had been laid down that not more than 50 students per year should be admitted as the accommodation available in the laboratories is limited. In view of the increasing number of students seeking admission special arrangements have been made to raise this limit to 60.

While the rapid increase in the number of admissions is a testimony to the high standard of education maintained at the College and a gratifying sign of the increasing popularity of Medicine as a career the management is faced with the inadequacy of accommodation, a problem which it is not easy to solve.

In addition to the University College, which provides the pre-medical course, six Colleges have been recognized during the year for pre-medical work and the number of students qualifying for admission is bound to increase beyond the present capacity of the College.

Sixteen students qualified for the Licence in Medicine and Surgery (L. M. S., Ceylon) and nine of these passed the Final Examination in the 1st class.

The new Pathology Block which makes generous provision for the housing of the Department of Pathology is nearing completion.

The proposed re-arrangements when this new block is ready for occupation, will also provide urgently needed accommodation for research work.

Research work was being carried on in many Departments of the College and several original contributions to scientific literature were made by members of the College Staff.

Section 20.—General Review.

(1) OUTSTANDING EVENTS OF THE YEAR.

(a) *The Reorganization Scheme.*

The provincial aspects of this Scheme have already been dealt with in my last Administration Report. Further details are found in paragraphs 870 and 871 of the Report of the Retrenchment Commission, Part I. Early this year it became possible, with the addition of three grade-officers to the Head Office Staff, to redistribute duties among the officers in such a manner as to enable each of them to deal with a definite group of subjects or allied subjects. The two Assistant Directors were relieved of almost all routine papers in order that they might devote special and sufficient attention to supervision, planning, and co-ordination of the activities of the Department. These changes were reflected in the reclassification of the various branches in the Head Office as well as in the formation of new ones, *e.g.*, Establishment Branch, Hospital and Dispensary Administration Branch, Public Health Branch.

(b) *Co-ordination Committees.*

Three new standing Departmental Committees were formed during the year to review the existing services rendered by the Department in connection with tuberculosis, leprosy, and venereal diseases control, and to advise the Department, from time to time, as to the measures calculated to promote co-ordination and development along correct lines of all work relating to the investigation and control of tuberculosis, leprosy, and venereal diseases. These three Committees, with the Medical Officer, Headquarters, as their Secretary, have been functioning satisfactorily and as a result of their recommendations, several improvements were introduced during the year. These, as well as the Departmental Committee on Malaria, have amply demonstrated that, where the activities are connected with several divisions or institutions of the Department, the Departmental Advisory Committee is the best machinery to effect a satisfactory co-ordination of activities, particularly in the field, as well as to pool to the best advantage the resources the Department has in specialist knowledge, administrative experience, &c.

(c) *Divisional Medical Superintendents.*

Quarterly conferences of Divisional Medical Superintendents became an established feature during the year. Several important problems connected with institutional treatment were discussed and many improvements suggested. It was emphasised that although the reorganization scheme was in the main a scheme of centralization, it, however, permitted the granting of wider discretion and greater responsibilities to the Medical Officers in charge of Hospitals. It was also arranged that in order to give sufficient administrative training to junior officers in Hospitals, Medical Officers in charge should entrust a certain amount of their administrative responsibilities, with satisfactory supervision by them, to the District Medical Assistants and House Officers. The conversion to a higher salary scale of the posts of Medical Superintendents at Kandy and Galle was sanctioned during the year; and proposals were put forward to Government for the formation of a Special Grade Medical Officer, comprising posts of Divisional Medical Superintendents, Senior Medical Officers, and the Superintendent, Mandapam Camp.

(d) *Hospital Diets.*

The important recommendations of the Departmental Committee on Hospital Dietary appointed in 1938 to make recommendations in the light of present knowledge of the dietetic value of local foodstuffs were given effect to during the year. The new diet scales introduced in consequence ensure a balanced diet with sufficient variety adaptable to different diseases and an adequate quantity of milk and fruits. Another Committee was appointed to go into the question of economy in the dieting of hospitals. Their final report is awaited.

During the year, increasing supervision of diet arrangements by Medical Officers in charge and their Assistants was enforced. The appointment during the year of Kitchen Stewardesses to some of the larger institutions and the appointment in the near future of Stewards recruited under a new scheme of a unified Hospital Clerical Service with higher educational qualifications will also help to improve considerably diet arrangements in hospitals.

(e) *Standard Equipment and a new Building Procedure.*

To avoid delay in the equipping of institutions, standard lists of equipment for the various types of institutions were prepared and changes in the indenting procedure were considered.

A new procedure was adopted in regard to buildings, new as well as additions to existing institutions. This ensures adequate consideration of the building proposals by the local officers of the Department, &c., as well as satisfactory liaison with the Public Works Department.

(f) The General Hospital, Colombo.

The Development Scheme of the General Hospital was amended on account of a site being found necessary for the operating theatre block. The new scheme provides for two four-storey blocks, a new Pathology Department including post-mortem rooms, Coroner's court, &c.

The General Hospital Advisory Committee was reconstituted with the Director of Medical and Sanitary Services as Chairman, and the Medical Superintendent, General Hospital, as Secretary. Although the new Committee has fewer members than the previous one, all the Visiting Staff as well as the various specialist sections are adequately represented.

An Advisory Board for the Nurses' Training Home was also created during the year.

Radical changes were introduced in the training of pupil attendants who will prove a great asset to the Department. The increase in their number was under consideration. About five of those female attendants who pass out best are offered training in midwifery.

(2) GENERAL REMARKS.*(a) Principles of Recruitment and Training of Personnel.*

A welcome feature of the Department has been the drawing up of recruitment schemes in respect of all grades of officers in the Department. Except in the case of those grades where applications are conditional on the possession of professional qualifications, *e.g.*, Medical Officers, Apothecaries, or where applications are confined to those already employed in the Department, in almost all grades a competitive examination with or without an interview by a Selection Board appointed by the Director of Medical and Sanitary Services has been introduced. This new system by which selections have been made as impersonal as possible has been functioning efficiently and with satisfactory results.

The creation of an Establishment Branch dealing with these subjects ensures uniformity in the methods of selection and conditions of service in respect of all grades. Increment certificates cum confidential reports have been introduced in respect of practically all officers of the Department. A knowledge of Sinhalese and Tamil (conversation and interpretation) and of Departmental instructions is made compulsory before new officers are confirmed in many of the grades.

With the appointment of a Sister Tutor and the opening of the Nurses' Training School, a systematic and up-to-date training of pupil nurses has been secured. Post-graduate training of Ceylonese Sisters has also been provided for in the Training Home, and it is hoped that it will be no longer necessary, when the present scheme is in full operation, to recruit nursing sisters from abroad or send Ceylonese nurses abroad for training. The appointment of an obstetric tutor and the increase in the staff of the Lying-in Home with a full time Medical Superintendent dissociated from professional duties have resulted in the satisfactory co-ordination of work at the Lying-in Home as well as in many improvements in the training of pupil midwives. Full advantage is now being taken of the extended period of 18 months' training including 6 months in a Health Unit. The training of pupil attendants is a recent introduction and the results so far have amply justified the new departure. There is no doubt a dearth in the country of trained nurses, midwives, and attendants. But with the present rate of recruitment, there should be a sufficient number of trained personnel in about 5 years. A scheme for the training of Dispensary Orderlies is under consideration.

The training of Sanitary Assistants has also been greatly improved with the appointment of a full-time Medical Officer of Health in charge of the training class. The training of Field Medical Officers has been extended during 1940 from 10 weeks to 12 weeks, including special training in the Malaria Field Laboratory at Kurunegala. There is now a unified grade of Laboratory Assistants of the Department who, before they are given appointments, are required to possess an "all round training" of work in the Bacteriological Institute and the Torrington Square Laboratories as well as the Pathology Laboratory of the General Hospital.

In view of the recent expansion of the venereal diseases' control scheme, Medical Officers are given about 2 to 12 weeks' training at the Genito-Urinary Clinic, Colombo, before they are sent in charge of Venereal Diseases' Clinics at outstations.

With regard to tuberculosis and other specialities, advantage is taken of the posts of Assistant Medical Officers, &c., in the various specialist Divisions and Institutions of the Department as well as at the Medical College to give a training to as large a number of Medical Officers as possible. Much could be achieved in this direction by a satisfactory planning of transfers in the Department.

That all Medical Officers in charge of Cottage and small hospitals should be entrusted with the health work of surrounding areas has been accepted as the new policy of the Department; but this has not been implemented to the maximum possible extent owing to the present lack of a sufficient number of officers trained in public health work. Ex-Field Medical Officers who are members of the grade of Medical Officer, Grade II., are generally entrusted with this work.

(b) Cottage Hospitals, Rural Maternity Homes, and Light Construction Wards.

With the growing appreciation by the public of medical and health services and their readiness to make satisfactory use of medical institutions, the Department has been in the recent past paying increasing attention to the needs of those areas comparatively thinly populated and remote. This new policy is reflected in the number of Cottage Hospitals and Rural Maternity Homes that are being established from year to year.

Many of the hospitals are overcrowded owing to people having become more hospital minded and owing to the admission of cases which should be, if facilities were available, sent to Convalescent Homes, &c. Many "Light Construction" Wards have been built to relieve congestion at these hospitals.

(c) *The Departmental Manual.*

The Departmental Manuals have not been revised for many years. As a result, the officers of the Department find it difficult to obtain, readily, instructions on a particular subject from a number of circulars issued from time to time. There are already three Sub-Committees functioning to compile a revised Departmental Manual broadly divided into three sections, Medical Health, and Accounting. Simultaneously with this revision, the question of printed forms is being taken up. A Committee has already been appointed to review all printed forms now in use in the Department and to recommend changes with a view to economy, greater efficiency, and better co-ordination.

(d) *Communicable Diseases.*

Special mention should be made of plague, of which there has been no case since August 23, 1938. This freedom is due to the fumigation of all grain and contact cargo arriving at Colombo from plague-infected ports. Colombo has been declared free from infection on February 24, 1939, in terms of article 6 of the International Sanitary Convention of Paris.

It is to be noted that new areas are being affected by malaria, *e.g.*, outbreak in the south-west part of the Island during May-July, 1940 [*vide* 2 (a) of Section 2, Communicable Diseases, of this Report].

(e) *Maternity Services.*

Provision in a sum of Rs. 3,500 was for the first time made in the Estimates for 1939-40 under the item "Travelling expenses of Medical Officers summoned to attend urgent maternity cases". This enables, in addition to the other existing facilities, the grant to poor mothers of domiciliary medical aid by hospital medical officers in difficult and abnormal midwifery cases which do not permit of the safe transport of the case to the nearest hospital. Similar provision has been continued in the subsequent estimates. At present, subsidies are given by the Department to Village Committees for the employment of some of their midwives. But the Village Committees, particularly in remote areas, find it difficult to attract trained midwives to their service owing to the absence of opportunities available for transfer, higher salary, and pension. The absorption of these midwives into the Department has been approved by the Executive Committee of Health, and further details are now under consideration. A special Medical Officer of Health has been placed in charge of an investigation into infant and maternal mortality in Ceylon. His findings will be a satisfactory guide to future development of maternity services. It is encouraging to note that more and more local authorities are willing to have their areas proclaimed under section 55 of the Medical Ordinance.

(3) RECOMMENDATIONS FOR FUTURE WORK.

(a) *Health and Malaria Control Scheme.*

This scheme has been described in my previous Administration Reports. It ensures a sustained attack on malaria which can never be tackled in isolation of other health problems. Besides, control is not possible without continuous work. A few more Field Medical Officers and other personnel are necessary to cover the whole of Ceylon. It is relevant to point out that new areas are being affected by malaria with consequent complications of the problems of control. Colonization, agriculture and irrigation schemes, as well as the facilities for quick travel now available, have brought in their quota of new problems. It is therefore imperative that this health scheme should remain a permanent feature, administered centrally by the Department of Medical and Sanitary Services with all the field work adequately supervised. To what extent local authorities, including Village Committees, should contribute towards the cost met by the Central Government in the provision of health services is a matter that should receive the careful consideration of the Financial Relations Commission to be appointed (*vide* page 87 of Sessional Paper XIV. of 1939).

(b) *Local Authorities and Health Personnel.*

The practice of loaning the services of the Department's Sanitary Assistants and Public Health Nurses to Urban Councils at a consolidated rate fixed with the concurrence of the Treasury should be extended to include other types of Health personnel as well as other types of local authorities, *e.g.*, Village Committees. This system will ensure uniform standards of recruitment, training, transfers, as well as of work on approved lines. The Departmental Medical Officers of Health serving in Urban Council areas have at present no statutory authority as such. It will be in the best interests of their work if they are given such powers without any derogation from the authority of the Chairmen. These are problems of the future. So far as the past and the present are concerned, I shall be failing in my duty if I do not refer to the good co-operation extended to the Department by the various local authorities.

(c) *Hospital Policy and a Dispensary Survey.*

It is the policy of the Department to improve the standard of the Provincial Hospitals so that the services rendered there may bear satisfactory comparison with the General Hospital, Colombo. For this purpose, some of the buildings have been extended and improved, and qualified Surgeons and Physicians appointed wherever possible. The services of qualified Obstetricians, Dental Surgeons, Ophthalmic Surgeons, and other specialists should be made available in all these institutions. The appointment of Assistant Surgeons and Physicians, &c., and the periodical transfers of some of the junior Visiting Staff of Colombo Institutions to outstations and *vice versa* may also be considered.

A Sub-Committee of the Executive Committee of Health is going into the question of hospital and dispensary facilities in Ceylon. It would be advisable that a priority list of hospitals and dispensaries to be established in the future be drawn up and no departure allowed without radical changes in the conditions of the areas concerned.

The overcrowding at the hospitals, and the possible methods of relieving congestion, have been dealt with in my previous reports.

(d) *Medical College.*

The Professors of the College are now adequately represented on the College Council. A full time Professor of Obstetrics is an urgent need and provision has already been included in the 1941-42 Estimates. With the facilities now available in Ceylon and the need that exists for intensive training in Tropical Medicine and Hygiene with emphasis on the special problems of Ceylon, I would recommend the starting at the Medical College of a post-graduate course in Tropical Medicine and Hygiene leading in course of time to the granting of a Ceylon diploma. In view of the policy of making Central Dispensaries of the Department the health centres of the area, it is necessary that greater emphasis should be paid to public health in the curriculum of the Apothecary students unless it is decided in the meantime to discontinue the training of Apothecaries altogether.

Ceylon is in need of a large number of Dentists and Dental Surgeons, and to meet this need the Dental School was started; it had to be discontinued for want of a sufficient number of post-graduate students. A proposal to restart the Dental School with provision for an under-graduate course is before the Board of Ministers.

The facilities obtaining for Research leave much to be desired. The researches that have already been made are promising and indicative of the need for further facilities that should be given. Investigations into the efficacy of some of the indigenous drugs, as well as the relation between nutrition and certain diseases in Ceylon, are of special importance. Researches should be carried on both at the Medical College as well as in the proposed Research Institute, the nucleus of which already exists in the Bacteriological Institute and the Torrington Square Laboratories. This Institute should be under the supervision of a Director who will co-ordinate all research.

(e) *The Department and the Public.*

The Department caters to the prime needs of the people and, as a result, members of the public come into direct contact with the Department in many ways. The paucity of complaints as well as the increasing demand from the public for additional medical and health facilities point to the appreciation of the Department's services. The large number availing themselves of treatment in Government institutions is a further indication of this appreciation. Advancement of public health is no doubt a co-operative venture and the active part to be played by the public is an important matter. It is also a heartening feature that the officers of the Public Health Service are being regarded more as friends than prosecutors.

(f) *Conclusion.*

During the past 5 years there has been an unprecedented expansion of the Department. Many institutions are, however, understaffed and under-equipped. Owing to this and the increasing scope and volume of the services undertaken by the Department, all the officers, particularly those in charge of medical institutions, have been compelled to work longer hours than the duty hours officially required. That there has been no breakdown in the services is entirely due to the willing co-operation of all the officers concerned to whom my thanks are due.

I should like to thank all Government Departments for the co-operation they have rendered me and, in particular, the Departments of Local Administration and of Education.

My term of office has almost coincided with the period of the second Executive Committee of Health. I had from them their unfailing and ungrudging assistance. My special thanks are due to the Hon. Mr. W. A. de Silva, the Minister for Health, whose readiness to meet the health needs of the Island and provide improved medical facilities has contributed greatly to the progress of the Department.

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